

REMARKS

Reconsideration and further examination is respectfully requested. Claims 1-26 are currently pending in this application.

Rejections under 35 U.S.C. §112, second paragraph

Claims 1 and 14 were rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. In particular, the Examiner stated that the language ‘the same transformation’ is unclear.

Applicant has amended the claims to overcome the ground of rejection. In particular, Applicant has amended claim 1 to recite “...configuring at least one node of the backup LSP to process a second label stack of any packet transmitted along the backup LSP so as to apply the same transformation to the second label stack as said transformation of the first label stack so that the second label stack corresponds with the first label stack at the input to the second node” Support for Applicant’s amendment can be found on page 8, paragraph 5 of Applicant’s specification. A similar amendment has been made to claim 14. As such, it is respectfully submitted that the rejection has been overcome and it is requested that it be withdrawn.

The Examiner is thanked for the careful consideration of the claims, and for providing the Applicant with a discussion of the Examiner’s position.

Claims 1-26:

Claims 1-26 were rejected under 35 U.S.C. §103(a) as being unpatentable over Lee (6,904,018) in view of Chuah (6,408,001).

In order to support a rejection under 35 U.S.C. §103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Applicants respectfully submit that the combination of Lee and Chuah fails to satisfy this burden for at least the following reasons.

1. Combination neither discloses nor suggests the invention of claims 1-26

Lee:

Lee (US 6,904,018) discloses a method for high speed rerouting in a MPLS network. This method more particularly relates to the protection and recovering of a multipoint to point label switch path or LSP, by contrast with a point to point LSP (e.g. col.2, l.56-61 and col.3, l.44-47).

According to the method disclosed by Lee, a backup LSP comprising a point to multipoint reverse anycast tree is set and a traffic stream is transferred, at a LSR sensed a failure, through the reverse anycast tree by looping back the traffic stream in a reverse direction when a failure occurs in a link in the MPLS network (see claim 1).

Lee describes, at column 3, lines 62-67:

“...To achieve the above object, there is provided a method for high speed rerouting in a multi protocol label switching (MPLS) network, the method comprising the steps of controlling a traffic stream to flow in a reverse direction in a point where node or link failure occurs by using a backup Label Switched Path (LSP) comprising an Explicitly Routed (ER) LSP having a reverse tree of a protected multipoint-to-point LSP and an ingress LSR through an egress LSR.”

Thus Lee describes a method which uses Explicit Routing to identify a reverse path.

Applicants note that no mention is made, in Lee of transforming a label stack to provide

consistency between a first label stack and a second label stack, as now more clearly recited in Applicant's claimed invention.

Chuah:

Chuah describes, in column 2:

“...A router, utilizing the method of the present invention in a destination based merging approach, first detects a plurality of unlabeled packets having a common destination address. The router then determines the quantity of unlabeled packets conveyed through the router, and having the common destination address, over a given period of time. The resulting quantity is called the packet transport density. The router maintains at least two packet transport density threshold values with which to compare the calculated packet transport density. ... if the calculated packet transport density value is between either threshold value, or is equal to either threshold value, then the packet transport density value is considered sufficiently large to warrant establishing a switched-packet flow. In accordance with one embodiment of the present invention, the router first searches for an existing label associated with an established layer two packet flow having a common downstream destination... If such a label does exist, then an opportunity to merge two switched-packet flows over neighboring routers was found. The two corresponding switched-packet flows may be merged without further inquiry, or in an alternative embodiment, the router may investigate the quality of service guarantees, if any, associated with the respective switched-packet flows ... Advantageously, the multiple packet transport density threshold value scheme, in accordance with the present invention, allows routers to use and maintain a smaller quantity of total labels...”

Thus, Chuah is concerned with merging paths having similar transport densities to conserve label use.

Applicants refer the Examiner to pages 2 – 3 of Applicants' instant specification, which describes a common problem with systems such as Lee's and Chuah's:

“... The backup LSP may also span more than two successive links of the protected LSP. For example, in the previous case, the two LSPs may merge in router D. This may provide the path recovery function in cases where the failure detected by B occurs in router C. However, it is inoperative whenever the backup LSP bypasses a LSR which performs some action on the MPLS label stack (pushing, popping, swapping). In our example, if C changes the label stack, D will not get the packets with correct labels along the backup LSP and therefore will not switch or process them as required...”

Applicants' respectfully submit that the solutions provided by Lee and by Chuah do nothing to overcome the problems of the prior art, as they do not perform the steps of the claimed invention of "...determining a transformation of the label stack of a packet transmitted along said portion of the primary LSP from an output of the first node to an input of the second node ... configuring at least one node of the backup LSP to process a second label stack of any packet transmitted along the backup LSP so as to apply the same transformation to the second label stack as said transformation of the first label stack so that the second label stack corresponds with the first label stack at the input to the second node..."

Although the Examiner states, at page 4 of the office action, that Lee teaches 'the same transformation as said transformation of the label of a packet along said portion of the primary LSP....' Applicant respectfully submits that the amendments to the claims clearly distinguish over the Examiner's previous interpretation of 'transformation', as provided at page 2 of the office action.

Applicants have amended the independent claims to more clearly distinguish over the mere changing of router identifier that is provided in Lee. For example, independent claim 1 now recites the step of "...configuring at least one node of the backup LSP to process a second label stack of any packet transmitted along the backup LSP so as to apply the same transformation to the second label stack as said transformation of the first label stack so that the second label stack corresponds with the first label stack at the input to the second node" Neither Lee nor Chuah, alone or in combination, describe or suggest such a limitation, and as such claim 1 is patentably distinct over the combination of references, and it is requested that the rejection be withdrawn. Independent claim 14 has been amended in a similar manner, and is therefore allowable for reasons similar to those provided for claim 1.

Dependent claims 2-13 serve to add further patentable limitations to claim 1 and dependent claims 15-27 serve to add further patentable limitations to claim 14, but each claim is allowable for at least the reason that they depend from an allowable parent claim, as described above.

Conclusion

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Applicants' Attorney at the number listed below so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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Date

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